The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 35

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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Ex parte RICHARD B. WRIGHT

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Appeal No. 2003-1352
Application 09/282,865

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ON BRIEF

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Before ABRAMS, FRANKFORT, and NASE, Administrative Patent Judges.

FRANKFORT, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 26, 31 through 39 and 41 through 50. Claim 27, the only other claim remaining in the application, has been objected to by the examiner and indicated to be allowable if

rewritten in independent form. Claims 1 through 25, 28 through 30 and 40 have been canceled.[1]

As noted on page 1 of the specification, appellant's invention relates to a wrench and fastener arrangement having a higher torque to failure in the loosening direction than in the tightening direction. More specifically, the invention involves an asymmetrical fastening system comprising a fastener (e.g., Fig. 6) and a wrench (e.g., Fig. 5), wherein the fastener has a single fastening periphery and the wrench has a single wrench fastening periphery designed and configured to engage the fastening periphery of the fastener, and wherein each of the fastening periphery and the wrench fastening periphery includes a plurality of tightening surfaces and a plurality of loosening surfaces formed thereon. Independent claim 26 is representative of the subject matter on appeal and a copy of that claim can be found in Exhibit A of appellant's brief (Paper No. 24).

[1] Decided concurrently herewith is the appeal in appellant's co-pending Application No. 09/059712, filed April 13, 1998 (Appeal No. 2003-0786). Given the close nature of the subject matter of that application and this one, the examiner should consider, during any further prosecution of the present application, the possibility of a provisional obviousness-type double patenting rejection.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Dmitroff	2,685,812	Aug. 10, 1954
Grimm et al. (Grimm)	3,354,757	Nov. 28, 1967
Stolarczyk	4,361,412	Nov. 30, 1982

Claims 26, 45 and 48 through 50 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Dmitroff.

Claims 31 through 36, 38 and 41 through 44 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Dmitroff in view of Grimm.

Claims 37 and 39 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Dmitroff in view of Grimm as applied above, and further in view of Stolarczyk.

Claims 46 and 47 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Dmitroff in view of Stolarczyk.

Rather than reiterate the examiner's full commentary with regard to the above-noted rejections and the conflicting viewpoints advanced by appellant and the examiner regarding those rejections, we make reference to the examiner's answer (Paper No. 25, mailed January 27, 2003) for the reasoning in support of the rejections, and to appellant’s brief (Paper No. 24, filed November 12, 2002) and reply brief (Paper No. 26, filed April 1, 2003) for the arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to appellant's specification and claims, to the applied prior art references, and to the respective positions articulated by appellant and the examiner. As a consequence of our review, we have made the determinations which follow.

In rejecting claims 26, 45 and 48 through 50 under 35 U.S.C. § 102(b) as being anticipated by Dmitroff, the examiner has taken the position (answer, page 3) that Dmitroff discloses a nut (12) engaged by a drive ring or wrench (20). The examiner urges that the drive ring (20) "functions as a wrench since a wrench is defined as a tool with jaws for turning an object such as a nut." The examiner further notes that the drive ring of Dmitroff is capable of being turned by an additional wrench or by hand.

Our review of Dmitroff reveals that this patent is directed to a "constant torque nut" wherein the torque control is present in the nut itself and the nut may be tightened by an ordinary wrench to a preset maximum amount which cannot be exceeded. More particularly, Dmitroff discloses a constant torque nut (10) including an inner shell or nut portion (12) and a driving or tightening ring (20) mounted on nut portion (12) and held in place thereon by a split lock-ring or lock-washer (30). The nut

portion (12) is provided on an external surface thereof with a series of ratchet-like teeth or serrations (16) which extend circumferentially around the nut portion. As noted in column 3, lines 38-50, the ring (20) has an external hexagonal or other shape adapted to be engaged by a wrench and turned thereby, and has a liner of moldable, resilient rubber-like material (24) integrally bonded to its cylindrical inner wall (22). The inner face of the rubber-like liner (24) is formed with a series of ratchet-like teeth or serrations (26) which are very similar in shape to the teeth or serrations (16) but of a slightly larger size so that the ring (20) may be slipped over the nut portion (12) with their respective ratchet-like teeth in close contact, as shown in Figure 2 of the patent.

Dmitroff notes (col. 3, line 70, et seq.) that when torque is applied to the hexagonal outer portion of ring (20) in the direction of the arrow in Figure 6 to apply the nut (10) to a threaded bolt or stud (S),

> the ring and its ratchet-like teeth or serrations 26 will tend to ride up slightly on the corresponding teeth 16 of the internally threaded nut portion until sufficient traction or friction has developed and then the ring will turn the internally threaded nut portion 12 and advance it around and along the stud S. This will continue until the flange 18 of the nut portion 12 abuts the flat surface in which the stud is secured. At that moment, the resistance offered by the nut to

> rotation will increase sharply until it reaches a point at which it is equal to the driving force transmitted between the engaged ratchet teeth. The nut then will be securely threaded to the stud with the required torque and the inclined ratchet teeth will begin to slip to prevent any increase in applied torque.

In the paragraph bridging columns 4 and 5 of Dmitroff, it is noted that when it is desired to remove the constant torque nut from the stud (S), the hexagonal outer portion of the ring (20) may be turned by a wrench in the opposite direction. As can be seen in Figures 2 and 6, when the rotation is in this direction

> the sharply inclined or abrupt faces of the ratchet teeth oppose each other and thus substantially precludes the possibility of slippage of the ratchet teeth in this opposite direction. As a result, a much greater turning force may be applied during loosening of the constant torque nut than could be applied during the tightening thereof, due to the unidirectional features of the driving engagement between the ring member 20 and the nut portion 12.

Like appellant, it is our determination that the outer driving ring (20) of the constant torque nut (10) of Dmitroff is not -- according to its structure, function and Dmitroff's express statements -- a "wrench." In our view, a "wrench" is a tool for gripping and turning the head of a bolt, nut, or the like, and conventionally consists of a bar or handle of metal having fixed or adjustable jaws configured to engage the head of a bolt or nut. A wrench is placed on or over the head of a bolt

or nut for applying torque thereto for tightening or loosening the fastener and then removed from the head of the fastener after completion of that operation.

By contrast, in Dmitroff, the ring (20) is by disclosure and function an integral part of the nut itself and has a hexagonal outer surface that is to be engaged by a wrench for tightening or loosening the constant torque nut, with the driving ring (20) remaining in place on the nut portion (12) after any such tightening or loosening. Thus, one of ordinary skill in the art would not view the driving or tightening ring (20) of Dmitroff's constant torque nut (10) as a "wrench." For that reason, we will not sustain the examiner's rejection of claims 26, 45 and 48 through 50 under 35 U.S.C. § 102(b) as being anticipated by Dmitroff.

The next rejection for our review is that of claims 31 through 36, 38 and 41 through 44 under 35 U.S.C. § 103(a) as being unpatentable over Dmitroff in view of Grimm. In this instance, we agree with appellant (brief, pages 12-15, and reply brief, pages 4-5) that there is no teaching, suggestion, or motivation for combining the constant torque nut of Dmitroff,

which seeks to limit tightening torque to a preset maximum by using flexible teeth (26) on the inner cylindrical wall of the driving ring (20), with the symmetrical spline wrenching configurations of Grimm. We consider that any such combination as posited by the examiner would be the result of hindsight reconstruction and require such substantial reconfiguration and redesign of the elements of the constant torque nut in Dmitroff as to basically destroy that reference for its intended purpose. Moreover, we note that the addition of the teachings of Grimm to those in Dmitroff would do nothing to account for the deficiency in Dmitroff we have pointed out above in our treatment of the examiner's rejection of independent claim 26 under 35 U.S.C. § 102(b). Thus, we will not sustain the examiner's rejection of dependent claims 31 through 36, 38 and 41 through 44 under 35 U.S.C. § 103(a) as being unpatentable over Dmitroff in view of Grimm.

Regarding the examiner's rejection of claims 37 and 39 under 35 U.S.C. § 103(a) as being unpatentable over Dmitroff, Grimm and Stolarczyk, and the rejection of claims 46 and 47 under 35 U.S.C. § 103(a) as being unpatentable over Dmitroff and Stolarczyk, we again find ourselves in agreement with appellant (brief, pages 15-18, and reply brief, pages 5-6) that the examiner's rejections

are the result of hindsight reconstruction. Since we have determined that the teachings and suggestions which would have been fairly derived from Dmitroff, Grimm and Stolarczyk, and from Dmitroff and Stolarczyk would not have made the subject matter as a whole of claims 37 and 39, or claims 46 and 47, obvious to one of ordinary skill in the art at the time of appellant's invention, we must refuse to sustain the examiner's rejections of those claims under 35 U.S.C. § 103(a).[2]

[2] Since we have concluded that the examiner has failed to establish a prima facie case of obviousness with regard to the claimed subject matter before us on appeal, we find it unnecessary to comment on appellant's evidence of secondary considerations relating to long felt need, failure by others and superior results.

In summary, since we have refused to sustain any of the rejections before us on appeal, it follows that the decision of the examiner rejecting claims 26, 31 through 39 and 41 through 50 of the present application is reversed.

REVERSED

NEAL E. ABRAMS Administrative Patent Judge	)	
CHARLES E. FRANKFORT Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
JEFFREY V. NASE Administrative Patent Judge	)	

CEF/dal

D. PETER HOCHBERG, ESQ.
D. PETER HOCHBERG, CO., L.P.A.
1940 EAST 6TH STREET- 6TH FLOOR
CLEVELAND OH 44114